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Sedation-Free Transnasal Esophagoscopy to Evaluate Esophageal Varices in an 18-year-old Male with Fontan Associated Liver Disease (FALD)

PATIENT HISTORY

An 18-year-old male with a history of Fontan physiology with associated liver disease, pulmonary hypertension, and portal hypertension underwent evaluation for a possible combined heart and liver transplant. A liver biopsy demonstrated advanced FALD and cirrhosis. A recommendation for an endoscopic evaluation of varices as part of his transplant evaluation process was made. A physical exam revealed normal nasal anatomy and prominent splenomegaly. With his history of single-ventricle physiology and associated potential risks associated with cirrhosis, he was referred for sedation-free transnasal endoscopy.

METHODS

Using the EvoEndo® Endoscopy System, a sedation-free TNE was performed during an outpatient clinic visit. Prior to the procedure, a topical nasal vasoconstrictor and topical analgesia were administered using a nasal atomizer (MADomizer, Teleflex, Inc). Two sprays (0.2ml/spray) of 0.05% oxymetazoline were administered to each nare. Subsequently, five sprays (0.1 ml/spray) of 4% lidocaine were administered to each nare and the oropharynx respectively (Total Dose 1.5 ml/60 mg lidocaine). Once analgesia was achieved, the patient chose to listen to music via earbuds during the procedure. The sterile, single-use EvoEndo® Model LE 85cm Gastroscope with a 3.5 mm outer diameter was then introduced into the patient's nose beneath the inferior turbinate along the septum. Avoiding contact with the adenoid, the scope was steered into the nasopharynx. The patient's epiglottis and upper esophageal sphincter (UES) was then visualized. The patient was asked to swallow, and the esophagus was intubated. The endoscope was advanced past the lower esophageal sphincter (LES) and into the stomach. Using air insufflation techniques, the evaluation of mucosa and varices was performed. No biopsies were taken, and the endoscope was withdrawn. Findings were documented.

FINDINGS

Two grade I varices (flattened with insufflation) and a single grade II varix (did not fully flatten with insufflation) were noted. (Figure 1). Gastric and esophageal mucosa were otherwise visually normal. No adverse events occurred. The patient returned home after the procedure and the total duration at the medical center was less than one hour.

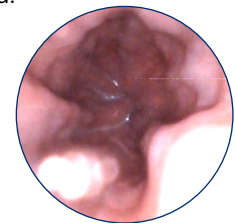


Figure 1

SUMMARY

An 18-year-old patient with multiple risk factors for anesthesia due to pulmonary hypertension, Fontan physiology, and cirrhosis required variceal evaluation. The hepatology team, as well as the patient and family, elected for a sedation-free transnasal esophagoscopy to evaluate for the presence of esophageal varices as part of a heart and liver transplant evaluation. He successfully underwent a sedation-free transnasal esophagoscopy with the sterile, single-use EvoEndo® Model LE 85cm Gastroscope without adverse events or risk of anesthesia. Except for the presence of esophageal varices, the esophageal and gastric mucosa appeared visually normal. Although varices were observed, no intervention was deemed necessary by the team. As a result of this diagnostic testing, risks were minimized and the transplant teams obtained valuable information. They ultimately determined that he did not need to undergo both heart and liver transplantation yet. Without such technology, a higher-risk, sedated endoscopic procedure would have been necessary.

The EvoEndo® Model LE Gastroscope is intended for the visualization of the upper digestive tract in adults and pediatric patients, specifically for the observation, diagnosis, and endoscopic treatment of the esophagus, stomach, and duodenal bulb. The gastroscope is a sterile single-use device and can be inserted orally or transnasally. The EvoEndo® Controller is intended for use with an EvoEndo® Endoscope for endoscopic diagnosis, treatment, and video observation.